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# DISEASES OF THE NERVOUS SYSTEM

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

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DISEASES of the NERVOUS SYSTEM

(PUBLISHED MONTHLY)

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

# Choice of Method in Psychotherapy*

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The general situation in psychotherapy as a scientific discipline is still unsettled and unsatisfactory, not being comparable to the present development of therapy in other medical disciplines. The reason for this is evident. Psychotherapy has not developed as an entity but has successively gone through various stages of growth, each of which, having passed its peak, left important contributions to be incorporated into the lasting therapeutic armamentarium. As a result such different procedures as waking—and hypnotic-suggestion, persuasion, relaxation training, reeducation and numerous types of analytical methods exist as heterogeneous aspects of the psychological medical approach. How is this variety of methods being utilized? At the present time those who carry out psychotherapy can be divided into two groups. One comprises the followers of therapeutic schools pledged completely to one of the leading doctrines, i.e., the adherents of Freud's, Adler's or Jung's school. The other group comprises the growing number of psychiatrists interested in psychotherapy who try to combine different types of approach in an eclectic manner, permitting them to make use of mixed methods depending on the type of therapeutic problem they have to tackle. It is with the latter group in mind that the following statements are made.

A psychiatrist wanting advice on which of the various psychotherapeutic procedures should be the method of choice would have a difficult task finding information in the literature. In textbooks it is customary to treat the various therapeutic systems successively. Each chapter is limited to some reference to the therapeutic value of the particular method described. The reader will look in vain for any chapter dealing systematically with the manner of choice in psychotherapy.

It is generally agreed[1] that the methods of suggestion and related procedures can be effectively used only if there is no marked personality involvement, while in all "deeper" neurotic conditions analytical procedures are advised. However, this general directive is a poor guide when dealing with an individual case. The type of symptomatology alone does not always permit definite conclusions as to the origin of the condition and to its significance for the personality. Symptoms which at first sight seem to refer to a superficial condition may actually have a much deeper underlying cause. For example, many a so-called war neurosis, seemingly precipitated by the acute stress of fighting, is later revealed to be the expression of an involved neurotic condition of long standing. The so-called traumatic incident in this case would then have only the meaning of a minor precipitating factor in the accidental symptomatology. Furthermore many nervous symptoms which bring the patient to the psychiatrist are in themselves rather colorless, such as complaints about general nervousness, insomnia, etc. Even though eventually the therapist would be able to size up the nature of the neurotic condition, the lack of possibilities of differentiation during the first stage of the treatment places him at a disadvantage. From

*From the Research Service of the Worcester State Hospital, Worcester, Mass.

the beginning the relationship between patient and physician demands a certain psychotherapeutic direction and there should not be too long a period devoted to investigation alone. There is, therefore, a true need for reliable criteria which early in the treatment would permit a certain amount of clinical and therapeutic differentiation. Though naturally in the broadest sense of the word some "analysis" of the situation is always necessary at the beginning, it would be quite advantageous to avoid a trial-and-error procedure from then on.

The differentiation which I have in mind is based on the fundamental difference between the two types of neurotic conditions which though showing some overlapping represent opposite poles. At the one extreme are those nervous conditions which have been brought on by the impact of an unusual situational stress on a well adjusted personality. These neuroses are of accidental character. They are peripheral with regard to the structure of the whole personality and they do not express any essential need for a neurotic compromise. A person who, because of untoward conditions, has once become sleepless and cannot return to normal sleeping habits because he has become overly conscious would fall into this category. So would another patient who through some whim of fate has been forced into a situation for which there is no satisfactory solution and therefore is bound to produce an ever-increasing amount of tension. At the other extreme are those various neurotic situations which in the main can be traced back to a neurotic personality structure which does not permit a normal solution of everyday problems because of the inherent neurotic indecision. It is irrelevant to this differentiation whether a neurotic condition is viewed in the orthodox analytic manner as the result of a somewhat accidental development or whether one believes that certain structural peculiarities have existed from the beginning, i.e., have been transmitted by the germ plasm. Only the cross-sectional result of the neurotic development is considered.

The first category may be termed the *accidental* neuroses and the second *essential* neuroses. The former represents a more or less incidental turmoil which in addition to situational readjustment can be treated by one of the more "superficial" methods, the main purpose of which is to supply a new "hold" to the helpless individual who has lost control of himself. This new "hold" is established by "smoothing over" the scarred surface of the personality, by straightening out distortions and tensions with suggestion, persuasive rationalization and related methods. The second group is centered around essentially neurotic personality structures. In these cases "smoothing over" the surface cannot achieve more than temporary success because the basic neurotic attitude does not permit normal decision and therefore forces the individual again and again into neurotic attitudes until the underlying personality difficulty is straightened out. This, however, can be done only with the help of some kind of analytical procedure.

Distinction between the two is dependent on one criterion, namely, presence or absence of the *resistance factor*. This permits not only differentiation of the two groups of neuroses but also definite conclusions as to the basic type of advisable therapeutic procedure. Whenever there exists an essential neurotic attitude, it must reveal itself in one of the various masks of resistance which counteracts the intention of the patient to seek help for his suffering. The underlying neurotic structure does not permit giving up the neurotic pattern to which the patient has adjusted himself, as he has found it the only accessible way of self-expression. In the other cases, the accidental type of neuroses, this same resistance is not offered because once the superficial turmoil has been straightened out there is no need to maintain a neurotic attitude which up to the traumatic situation did not exist at all.

Though much has been written about the nature of resistance, particularly in the analytical literature, it may be advisable to outline its varying appearances. When are we actually safe in assuming its presence? There is always the danger that the therapist assumes resistance if the patient does not act the way the therapist wants him to; if the patient does not accept his guidance and his interpretations. To avoid this pitfall, one must look for objective criteria. I think one can say that resistance is present if the patient shows attitudes or does things which do not correspond to his present situation or if he

ostensibly by word or deed or omission seems to counteract his alleged intention to overcome his neurotic condition. There are many disguises of resistance; what form it takes depends largely on the type of personality. The passive and asthenic personality will show a different type of resistance than the sthenic and aggressive type. The asthenic personality will tend to show its resistance by withdrawing and burning down the bridges before the advancing "enemy," i.e., the therapist. It may be expressed in the patient's running out of material, his not being able to remember the most recent happenings or to recall any dreams. However, he may try to cover this retreat with a noisy rear guard action; he may talk incessantly but in an irrelevant and aimless way. Or, driven into a corner, he may seek refuge in the production of physical symptomatology, such as an attack of tachycardia.

Quite different is the behavior of sthenic resistance which is in accord with a more aggressive attitude. Sthenic resistance will not miss any opportunity to fight openly arguments and attitudes of the therapist and will delight in crossing swords with him. Resistance may try to involve his personal integrity through aggressive flirtatiousness, etc.

Still another form of resistance I once called the "intriguer" type. It is comparable to the machinations of a shyster politician. Seemingly the patient will always appear helpful and cooperative, will agree with everything the therapist suggests and will even offer an abundance of material which confirms the lead the therapist has been giving him. For example, if a father complex has been under discussion, the intriguer type will offer numerous dreams overtly expressing the father complex. Soon, however, his behavior will show that actually he has not been accepting this interpretation at all but has been utilizing it for his own purpose to give the therapist a false sense of security. Then he will suddenly attack this very position which, according to all symptoms, had already been accepted by his own better insight.

Whatever the disguise of resistance may be, the experienced psychiatrist, once he focuses his attention on this factor, will readily notice during the first interview of a new patient whether he by word or action tries to counteract the therapeutic attempt. It will therefore not take long to discover whether a resistance attitude is forcefully present, thus permitting him to make the fundamental decision as to the therapeutic procedure. If resistance is absent, one of the superficial "smoothing over" methods can be applied. If resistance is present, recourse will have to be taken to one of the various analytical therapies.

Starting out with this basic differentiation I should like to enlarge upon the various subtypes of each of the basic therapeutic procedures.

### *Superficial Methods*

Every case, irrespective of the therapeutic method it will require, must begin with an investigation of the whole situation with an "analysis" in the broadest sense of the word. If the main problem is readily discernible and the nervous symptoms are of a rather general type such as hypochondriacal or other fears, discussing and rationalizing the situation by the method of "persuasion" as first described by Dubois and Dejerinne will seem most appropriate. It need hardly be said that a certain amount of suggestion always goes into forming the basis of the therapeutic relationship just as it does and always has done in medicine in general where so often confidence in the prescription helps more than the ingredient prescribed. However, suggestion as a method in itself, particularly as applied in hypnosis, is reserved only for well circumscribed conditions. Superficial conversion symptoms, neurotic superimpositions on organic disease and insomnia, are in my opinion the most favorable indications for hypnotic treatment.

For a certain type of very dependent patients I would suggest substituting for hypnosis one of the methods of relaxation training such as used by Jacobson, Schultz and others, particularly if general tension, physical sensations of discomfort or difficulty in falling asleep are the chief complaints. The patient can learn to achieve a certain amount of control over many of his organ functions which he cannot rule by conscious effort and, whereas hypnosis generally increases the dependency of the patient, this method has the great advantage of making him more independent of the physician. On the other hand definite conversion symptoms such as hysteri-

cal aphonia or motor paralysis are beyond the reach of relaxation training.

*Analytical Methods*

In discussing the different possibilities of analytical treatment, one may recall Jung's[2] early realization that both the psychoanalytical view of Freud and the individual psychological approach of Adler refer to different facets of the personality which, as a whole, is neurotic. It was Jung also who first pointed out that both systems treat mainly of the neurotic difficulties of young people. Both apply a single principle that the neurotic individual is having difficulties in ridding himself of the chains of his early environment whether the impact of this environment is representative of the persistent libidinous fixations of the Oedipus type or the inferiority feelings of the son who protests against his domineering father and finally against all authority.

Neurotic conditions in later life usually have a different meaning. Though the symptomatology may be but an exacerbation of a neurosis of long standing, neuroses occur not infrequently during this period without any external precipitation in individuals who previously have appeared well adjusted. Someone whose life by all external standards has been successful may now for the first time evidence neurotic symptoms. Having attained his position in the world, raised a family and achieved social recognition, his life may have stagnated, bound always to the same tracks without any prospect of stimulating change. Without consciously knowing why, he feels dissatisfied and restless, vaguely aware that something is basically wrong in the organization of his life. It is during this period that many a well established man either tries to break away from the unbearable situation by a divorce or an unexpected marriage, or he may find the neurotic way out.

The true meaning of this development can be understood only with the aid of Jung's personality concept according to which but part of the personality is consciously realized while the other part remains buried in the unconscious sphere. If in the course of life one half has become hypertrophic, the other has to lead an unhappy and unfulfilled existence in the unconscious and gradually the balance becomes seriously upset. One may compare the situation to that of a ship which is in danger of capsizing because the load it carries has not been equally distributed or has shifted to one side. Because the difficulty underlying the neurotic development in these cases is the inability to realize and fulfill the two opposing potentialities within the personality, this situation has been named by Jung "The Problem of Contrast." Jung's psychology therefore offers the method of choice for the essential neuroses of the second half of life.

Which criteria help us to choose between the Freudian and the Adlerian route in neuroses of the younger years? Since the Freudian theory leads back to the instinctive level with its libidinous fixations, it should concern chiefly those neurotic structures which are primarily centered around *feelings of guilt*. The Adlerian view on the other hand refers more to feelings of inferiority and compensatory facades and attitudes. Whereas presence or absence of resistance determines the choice of "superficial" or "deeper" therapeutic procedures, it should be the presence of prevailing feelings of guilt which would induce the therapist to adopt the Freudian approach in favor of the Adlerian. The latter method, in spite of its theoretical simplicity, is of greatest usefulness in practice whenever the personality pattern is characterized by keeping up a facade behind which strong *feelings of inferiority* are hiding.

I should like briefly to refer to the difference between an eclectic analytical approach and an orthodox psychoanalysis. While it is the endeavor of the analyst to trace back the neurotic condition to its earliest beginnings, it may seem to many psychotherapeutic psychiatrists that this effort involves more energy, time and consequent expense to the patient than is actually necessary for the therapeutic goal. One who is convinced that in the various periods of life the same neurotic pattern is usually enacted over and over again will not insist on tracing the development back to its earliest beginning if later analytical material succeeds in clarifying the issues and resolving the neurotic problems. Aside from this theoretical difference of opinion therapeutic experience does not bear out that there is better success with prolonged analytical treatment than with a shorter eclectic approach. Many arguments can be offered for each opposing point of view

and it is therefore impossible to settle this dispute by the way of statistics. However, one fact weighs in favor of the therapeutic short-cut and that is the over-cultivation and over-emphasis of the individual which is apt to leave dangerous traces in the patient who has gone through an extended orthodox analysis. Every psychiatrist who has been therapeutically active has encountered patients who previously had received orthodox treatment of two or more years duration and whose whole interest in life has become restricted to analytical introspection, often to the extent that these patients seem to have forgotten plain everyday language and can converse only in the terms of the various analytical schools.

Whether the eclectic therapist will prefer to apply the method of free association or the interpretation of dreams to gain more unconscious material is a matter of taste. I should think that interpretation of dreams would appeal more to an artistic temperament but at the same time it is also the more dangerous approach if it is not handled in a very passive and conservative fashion, leaving to the patient all interpretations and eschewing the use of standards symbols. Furthermore, as far as possible one should always use ordinary face-to-face discussions. As Jung has pointed out, particularly dream interpretation requires as a solid basis, information about the patient's conscious knowledge of himself. Only when discussion comes to a dead-end without producing any new material should recourse be taken to one of the specific analytical techniques. Often free association as well as dream analysis can be interspersed for one or several sessions and after producing new material the therapeutic situation in order to save time may go back to plain discussion level.

There is another therapeutic approach of great importance in all cases of essential neuroses and this is reeducation. Even when all underlying conflicts have been set forth, the therapeutic task is by no means done. On the contrary the danger is always great that after long analytical procedure the patient may become mired in his own introspection and instead of adjusting to the realities of life accept the newly gained analytical knowledge as a substitute interest and philosophy of life. For this reason it is necessary to help the patient overcome passivity and inertia which are cultivated through the first part of the treatment and to aid him in regaining a sense of proportion and also in drawing practical conclusions from his own insight by finding new constructive channels for his energies. This reeducational attitude has been stressed by several schools, notably that of Riggs in Stockbridge. It is also an important trend in the aforementioned Adlerian "Individual psychology."

In trying to give a few criteria which I consider fundamental for the choice of method in psychotherapy, I do not overlook the overlapping among the various types of treatment. As there can be no suggestive approach without an analysis of the situation, there is also an element of suggestion effective in the analytical procedures. Furthermore, in certain cases a combination of various types of procedure may be indicated, such as in severe obsessive-compulsive conditions where after a clarifying analytical procedure two or three hypnotic sessions may effectively give the "final touch" to the therapeutic effort.

The brief exposition I have tried to give represents a gross simplification of a very involved matter. However, I thought it worth while to try and reduce the problem of therapeutic indications to a relatively small number of criteria which in my own experience have proved to be reliable and which might be of value to others when confronted with the present confused state of the general psychotherapeutic situation.

*28 Pleasant Street.*

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***STAY IN THE FIGHT — HOLD THE WAR BONDS YOU BUY***

# The Neurogenic Aspects of Hypertension*

JACK R. EWALT, M.D.
*Galveston, Texas*

The role of the nervous system in maintaining an adaptive flexibility in the fluid tension and in the volume distribution of the blood, through alterations in vessel size, control of cardiac output and regulation of the flow of the vasoactive endocrine secretions is a fairly well standardized chapter in physiology. The consideration of the neurogenic role in the production of certain types of hypertension requires a preliminary review of the anatomic and physiologic integrations involved in the normal functional alterations in blood pressure. Miller[1] has summarized these elements as follows: "From the cardiac pump to the tiniest capillaries and back the circulation is governed by automatic regulation. This regulation is accomplished largely by a nervous apparatus which is made up of central and peripheral components. Through highly organized reflex adjustments these components are coordinated to chemical, physical and mechanical processes which are also under the control of the autonomic system. . . . At various levels from the telencephalon through the spinal cord regulatory devices exist; these are especially well developed in the brain stem."

Through the autonomic pathways the nervous system acts to alter the pressure and distribution of blood to meet the metabolic needs of the tissues. All activity from such somatic acts as straining at stool to the more ethereal fantasies of the anxious female are each in proper proportion accompanied by alterations in blood tension and distribution. In each and every instance all of the regulatory factors function in an integrated unit. For purposes of discussion, however, it becomes necessary to consider the various units or elements separately.

## I. *The Brain*

### A. *Intracranial Pressure*

An increase in intracranial pressure is frequently accompanied by a persistent hypertension. If the lesion producing the increase in spinal fluid pressure involves the hypothalamus, mid-brain or stem, the resultant hypertension will be of considerable magnitude and will be sustained in the presence of a vigorous myocardium. This may be shown experimentally by injections of kaolin or other foreign matter into the 4th ventricle. Numerous clinical examples are in the literature. As an example Gilchrist[2] reports the case of a 45-year-old female who suffered from an obstructing hydrocephalus. With a spinal fluid pressure of 500 mm. $H_2O$, the B. P. averaged 186/100. With ventricular decompression the B. P. decreased but as the fluid reaccumulated the B. P. again increased. Klemme and Woolsey[13] have reported that a tap decreases the hypertension present in some patients with increased intracranial pressure.

In our own service the most common intracranial lesion accompanied by hypertension is spontaneous subarachnoid hemorrhage, and the tensions are greatest in those cases with signs of intraventricular hemorrhage. It is also interesting to note that chronic alcoholic patients frequently have brain edema, some increase in intracranial pressure and mild degrees of hypertension, all of which return to normal limits with detoxification and treatment directed toward eliminating the excess fluid from in and about the brain. Whether the hypertension is due to the brain edema or coincidentally caused by the same toxic and deficiency factors has not to my knowledge been determined.

### B. *Cortical Factors*

Lesions involving the cortex have been reported as factors in producing increased B. P. levels. The most marked rises are produced in cases suffering from cortical lacerations which involve the added factor of bleeding into the parenchymal tissues with resultant irritant and lytic effects. Most true apoplexies are due to vascular disease and the hypertension present in these cases is presumed to be due to the pre-existing vascular pathology. Bucy[4] reports the disappearance of radial pulsation and absence of recordable B. P. on the involved side immediately after a cerebral vascular accident. Such findings are not pres-

*Seminar on Hypertension, University of Texas, School of Medicine, 1944.

ent in the later stages of apoplexy. Bucy explains this phenomenon as due to generalized vasoconstriction of the vessels on the involved side.

It has been known since 1855 that stimulation of the frontal lobes caused an increase in pulse rate and since shortly after this that frontal lobe stimuli could produce hypertension. Recently Fulton[3] has shown that faradic stimulation of areas 4 and 6 in the cortex of cat and monkey will produce a sharp rise in systolic pressure. This effect is abolished by deep general anesthesia and by local anesthesia of the cortex. Section of the splanchnic nerves diminishes the effect somewhat and if the stellate ganglia are also destroyed the effect is diminished still further but is not abolished. Vagal section facilitates the B. P. response to cortical stimulation. Fulton also found some depressor areas near these pressor foci and he reports that the renal blood flow is increased during the fall in B. P. produced by stimulating these depressor areas. He found that stimulation of areas 4 and 6 also caused a shift of blood from the visceral to the muscular bed even though the limbs were paralyzed by curare. Bailey and Sweet[5] obtained an elevation in B. P. on stimulation of the orbital surface of the frontal lobe, near the olfactory tract.

### C. *The Hypothalamus*

There is a tremendous bulk of literature on the hypothalamus and its part in B. P. regulation. Most of the publications are controversial in nature and it becomes difficult to separate accepted facts from moot questions. Excellent summaries of the literature are available in the texts of Miller, Fulton, and Gellhorn.[6] From these summaries one may select the following items about which there is some general agreement. Stimulation of the lateral nuclei causes a sharp rise in B. P. after a latent period of about 1 second. This rise is accompanied by little or no increase in pulse rate, probably due to the carotid sinus reflex. Stimulation of the dorsal nuclei causes a rise in B. P. and a constriction of the pial vessels. Adrenalin fails to influence this particular reaction, but elimination of the cervical sympathetics diminishes this reaction considerably. Stimulation of the anterior portion produces vagal slowing and a decrease in B. P. Stimulation of the tubar area causes dilatation of the pial vessels and fall in B. P. Some authors (Beattie especially) postulate a parasympathetic center in the anterior portion of the hypothalamus and a sympathetic area in the posterior portion. This concept has instigated considerable argument pro and con but the final answer is not yet available. The attempts to prove or disprove this issue have resulted in many interesting side observations. It has been shown that stimulation of a certain anterior hypothalamic area may cause a fall in B. P. with a current of low frequency and a rise in B. P. if the frequency is increased. The fall has been shown to be due to a decrease in the frequency of impulses in the accelerator nerve. This suggests that this area may inhibit the sympathetic rather than stimulate the parasympathetic. Other workers have injected acetylcholine into the lateral and 3rd ventricles and provoked either a rise or fall in B. P. depending upon the concentration of the drug. Vasodepressor effects have also been produced by injection of pituitrin into the ventricles of rabbits and humans. Miller compromised the issue by stating: "A parasympathetic 'sphere of influence' . . . probably does exist in the hypothalamus, but its anatomic delineation is still obscure."

What role these hypothalamic functions play in essential hypertension is unknown. It is also not known what influence, if any, they have on renal vascular control and the production of the vasopressor substances said to be present in excess in patients suffering from essential hypertension.

Encephalitis is known to produce chronic hypertension in certain individuals and it also affects the hypothalamus in certain individuals. Whether these factors are cause and effect or merely coincident has not been determined as far as I know.

### D. *Medular Centers*

One of the most important control stations of the circulatory system is the bulbar vasomotor center. This area is thought to contain elements for both vasoconstriction and vasodilation, the former characterized by constant tonic discharges and the dilator nerves showing little or no tonic activity. This same general area also contains the cells for the parasympathetic cardioinhibitory nerve. The influence on the circulatory system of bulbar tumors, the bulbar forms of polio, encepha-

litis, and diphtheria have long been recognized. There is no convincing evidence to link bulbar pathology with chronic states of hypertension, probably because bulbar lesions either spare the vasomotor centers of the bulb or they involve it and the patient dies.

E. *Spinal Centers*

Certain subsidiary vasomotor centers have been described in the spinal cord. The work with these centers is not extensive. It is worthy of note that elevated B. P. is sometimes observed in the ascending form of poliomyelitis during the acute phase. Vickers (quoted by Gilchrist) found a persistent hypertension in 8 patients from a group of 44 individuals under 30 years of age who had residuals of a former poliomyelitis.

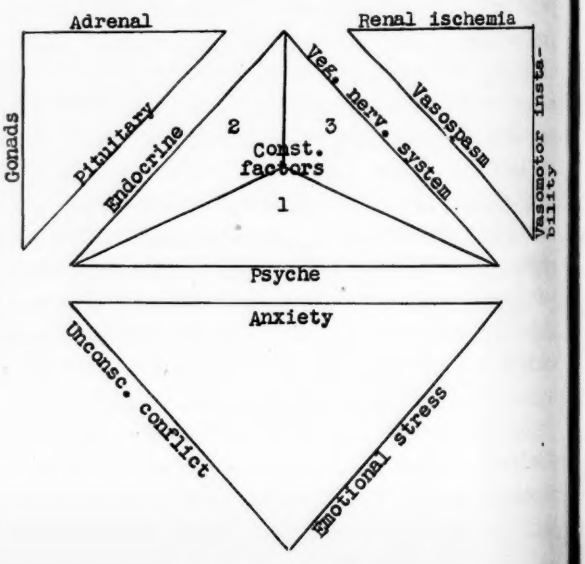
F. *Psychic Factors*

The importance of chronic or recurring emotional problems as a complication in hypertensive patients has been recognized by practically all writers on the subject. In recent years there has been an increasing interest in investigating the possible causative role of certain types of personality problems. These postulations appeal to many physicians because of the fact that profound alterations in autonomic functioning may be produced by emotional stimuli. Consider the profound autonomic alterations produced by appropriate emotional stimuli in the phenomenon of fainting and collapse on one extreme and arousal and erection on the other. We possess no drug and there is no lesion that can emulate the psychic apparatus in the speed of onset and the ease of reversability in these and similar situations of autonomic discharge. The psychoanalytic group has made a number of studies of patients suffering from hypertension. They report the universal presence of emotional tension due to repressed hostility—a so-called "inhibited aggression." To date no one has successfully produced a chronic hypertension by artificially inducing aggressive responses and denying them expression. This also offers a considerable field for research. Edward Weiss[7] has represented his concept of hypertension graphically in his excellent diagram of the subject.

Gilchrist in commenting on patients favorable subjective response to therapy which should not alter the B. P. says: "The patient presumably feels better because he is (or believes he is) under the care of a knowledgeable person. The personality of the prescriber predominates and the pressure falls. . . . It is, however, unlikely that long continued emotional tension can of itself be the sole factor in determining persistent diastolic hypertension." He further notes that in the functional cases the greatest alterations, in both directions is in the systolic pressure.

An interesting experimental item in this phase of the problem is reported by Allen.[8] In dogs with explanted kidneys he noted remarkable differences in the B. P. response to clamping the pedicle, differences which he explains, in part, as due to the personality differences between the dogs. Large, powerful, excitable dogs and the stoical dog who bore discomfort too calmly both showed great increase in B. P. with clamping of the pedicle. The quiet, weaker dogs showed little B. P. response to the clamping. Animals who were absorbed in other manipulations about their body, and failed to note the ligation of the pedicle, showed almost no alteration in blood pressure. The maximal changes occurred when animal was free to concentrate his attention on the clamping of the pedicle. Anesthesia and analgesia (morphine) produced a fall in B. P. induced by clamping. Allen feels that these factors point to some nervous reflex factor as the explanation for these phenomenon.

Another experiment throwing some light on the effect of consciousness and cerebral circulation on the B. P. has been reported by Rosen, Kabat and Anderson.[9] They cut off all



blood flow to and from the brain by means of a cervical cuff which can be inflated to 600 mm. Hg. in 1/8 sec. Patients lose consciousness in 5-8 sec. The cuff was left inflated for as long as 100 sec. Their B. P. readings leave much to be desired but they show only a 15 per cent alteration in systolic and less change in diastolic, the changes being in either direction. There is, however, a powerful vagal effect on the pulse rate after a latent period of 20-30 sec.

II. *Peripheral Nerves*

A. *Carotid Sinus*

The carotid sinus has been the object of extensive experimental study, perhaps because of its accessibility as contrasted to the central autonomic stations. The literature on the functions of sinus has been thoroughly reviewed by Gellhorn[6] and presented in various portions of his book. These studies all illustrate that the carotid sinus function assumes one of the most important roles in adapting the pressure and distribution of the blood to the bodies' needs. The intact carotid sinus is especially important in the control of the blood flow to the brain. In fact the primary function of this body seems to be the maintenance of an adequate blood supply to the heart and the brain, and that it has the proper connections to alter the physiological processes of the entire body to protect these two most vital and vulnerable areas.

In spite of these extensive studies the role of the carotid sinus in hypertension remains unclear. A chronic state of hypertension has been induced[10,11] experimentally by section of the depressor nerve and denervating the carotid sinus in dogs and cats. Page[12] states that sclerosis of the carotid sinus is a cause of hypertension in man, but I am unaware of any confirmation of this observation.

The importance of an intact carotid sinus to the maintenance of normal blood pressure, and in the control of adrenalin secretion, makes it a likely point of origin for any form of neurogenic hypertension, but in the present state of our knowledge the matter remains largely speculative.

B. *Sympathetic System*

The role of the peripheral sympathetic chain in hypertensive patients has been the object of rather extensive experimental studies in both man and animals. The neurosurgeons have been particularly active in their assaults upon the integrity of the peripheral chain and we have exponents of the supra and subdiaphragmatic sections and the combined operation, all extolling their virtues. The surgical management of hypertension is to be the object of a later discussion and the details of the above work will be presented at that time. I would, however, like to comment on certain aspects of the problem at this time. In spite of both favorable reports and unfavorable reports, I believe that in general the operation has failed to correct the basic difficulty and in many patients the B. P. returns to its previous level and the renal blood flow remains unimproved. Typical of the modern trend are the favorable results reported by Klemme and Woolsey[13] who advocate an extensive sympathetic resection. On the other hand other workers[14,15] report only subjective improvement with no aleration in the fundamental process as revealed by B. P. and renal function studies. The reason for the subjective improvement recalls the previous quotation from Gilchrist. Page[16] and Goldblatt[17] report no change in B. P., in Goldblatt preparations in the dog, after any type of peripheral sympathetic assault. Goldblatt performing total sympathectomy of thorax and abdomen, including denervation of the heart and total destruction of the spinal cord without affecting the hypertension. Page explains the failure of such procedures to affect hypertension in dogs and the lower of tension in man by extensive sympathectomy in an ingenious manner. He believes that denervation of the visceral splanchnics causes a failure of venous return and thus decreases the cardiac output which in turn tends to decrease the B. P. Dogs escape this failure of venous return because they do not walk in the upright position. So far as I know no one has tested this by placing and keeping the operated dogs in the vertical position. It is also interesting to note that the sympathectomies almost invariably produce a temporary fall in B. P. in humans and that they later tend to recur. What correlation there is between the postoperative resumption of activity in the upright position or in some compensatory improvement in venous return and the recurrence of the hypertension has not, to my knowledge, been studied.

One might conclude the discussion by pointing out that Vitamin A has been reported[18] to reduce the hypertension in Goldblatt dogs. The obvious conclusion from this rather speedy survey of the neurogenic factors in hypertension leaves the conviction that this phase of the problem has been incompletely studied.

The system which normally controls and maintains the tension and distribution of the blood stream must be suspected when these functions fail. That the entire autonomic and central nervous system, with all of its regulatory and compensatory powers, should be unable to compensate for some decrease in the lumen of the renal artery (mechanical or otherwise) is not logical even though it apparently exists as a fact in experimental animals. I believe that the whole field is in the infancy of knowledge and that the future will bring about extensive revisions in our present thinking.

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# Insulin Therapy in Schizophrenic Patients Responding Unsatisfactorily to Electroshock Treatment*


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Electroshock has rightfully supplanted other forms of shock therapy for the affective disorders and for many schizophrenic psychoses as well. This is due to the fact that electroshock treatment is safe, inexpensive, and easily administered. It should always be tried before other more cumbersome, more dangerous, and more time-consuming methods are attempted. There are, however, a number of schizophrenic reaction types which respond poorly to electroshock treatment alone. In a group of 20 such patients we investigated the therapeutic possibilities of a succeeding course of insulin treatment, either by employing the "classical" method of Sakel,[1] or by utilizing an abbreviated course of insulin shock therapy or even by giving subshock treatment.[2]

We are aware of the fact that at the present time the clinical[3,4,5] and statistical consensus[6] in regard to shock therapy in schizophrenia advocates insulin therapy before any form of convulsive treatment. However, these clinical


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and statistical observations usually have been made on groups of different patients; we don't know of any special investigations on schizophrenic reaction types which received insulin treatment after electrotherapy, for one reason or another, had failed. Some work has been done on insulin treatment in "metrazol failures"[7,8,9] and all reports stress the encouraging results produced by insulin.

We would like to add here that some investigators[10,11,12,13,14] try to explain the frequently reported failure of electric convulsive treatment in schizophrenia on the basis that not a sufficiently large number of convulsions was induced. We agree with Kalinowsky[12] that a course of 20 electroshocks is ordinarily desirable for best results and especially for guarding against relapses; but we have also observed that if improvement is going to occur at all, definite progress is evident during the first 10 treatments.

During the past year and a half we tried 20 patients with insulin after electroshock treatment showed either unsatisfactory results (in 17 cases) or had to be discontinued on account of other conditions (Cases 1 and 5). Twelve patients were classified as catatonic reactions, 5 showed more or less paranoid symptomatology, and 1 each was diagnosed as simple type, mixed type, and type undetermined. The insulin treatment of the patient classified as "mixed type" could not be continued on account of an anaphylactic reaction to insulin.

The results of the treatment are tabulated in the table.

### *Comment*

Surveying this table we find that a substantial majority of the 20 patients appeared to have benefited by insulin therapy after responding in a disappointing fashion to electroshock treatment. Thus, in 2 patients (10%) a complete remission was achieved; 4 patients (20%) showed a social remission, meaning that there remained slight defects in insight or affectivity but otherwise there were no frank psychotic symptoms that could be elicited. Nine patients (45%) displayed various grades of improvement after insulin treatment and only 5 patients (25%) showed no appreciable benefit at least 2 months after insulin treatment had been terminated. Temporary improvement which could not be maintained for at least 2 months was not counted as such. Fifteen patients could be paroled home, 12 of them are still with their families and working, and all these have been at home for at least five months. Two will be paroled shortly. Three patients relapsed after being paroled home, but one of them (Case 6) improved again after 12 subshock treatments and is at the present time working in our hospital.

It is interesting to mention that even subshock doses of insulin[2,15] produced satisfactory results in 4 of our cases (Nos. 3, 5, 6, 12). We also observed that after first receiving a course of electroshock therapy most schizophrenic patients require considerably fewer "full-shock" treatments[16] than the usual "classical" method of Sakel[1] calls for. It should, moreover, be emphasized that by all clinical standards[3,4,17] 11 of our 20 patients were originally considered to have a very poor prognosis. In 7 the frank psychosis was of more than 2 years' duration; in another 4 rapidly deteriorative tendencies appeared to be strong and pre-psychotic personality showed poor integration. In spite of these facts insulin treatment was successful in 55 per cent of the patients yielding various grades of improvement.

It must finally be mentioned that the number of insulin treatments administered to each patient was invariably larger than the number of electroshock stimulations. Various authors[10,11,12] have expressed the opinion that unsatisfactory results of electroshock treatment of schizophrenia are due to the fact that an insufficient number of treatments is given. We would like to add here the following statements: *First:* We have never seen any definite progress in schizophrenic patients after 10 consecutive electroshock stimulations failed to produce any. *Second:* Eight of our cases received more than 15 electroshock treatments, 3 of them over 30, and in spite of this failed to respond satisfactorily or relapsed quickly after termination of each treatment course. Fifty per cent of these patients responded promptly to insulin treatment, however. *Third:* The number of actual insulin comas (when patients were in coma and unable to drink the sugar tea[17]) was in 11 cases less than the number of electric convulsions administered. Ninety-one per cent of this group responded promptly to insulin, however, showing the best results of all. If it

| Case No. | Sex | Age | Type of Schizophrenia | Duration of Manifest Psychosis | Number of Electro-Treatments | Result of Electroshock Treatment | Total No. of "Insulin-days" | Number of Full Shocks | Number of Half Shocks | Grade of Remission | Result of Insulin Treatment and Follow-Up |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 (G. L.) | M | 39 | Severe catatonic reaction | 1½ mos. | 3 | Increased catatonic reaction; markedly worse. Continuous catatonic excitement. | 9 | 6 | 2 | Social remission | Great improvement. Almost complete reintegration. Paroled home. 1½ years later: No psychotic symptoms. Working. |
| 2 (C. D.) | M | 21 | Catatonia, rapidly progressive | 1 year | 13 | Almost no improvement. Patient stuporous and hallucinated. | 59 | 10 | 12 | Improved | Marked general improvement. Still some catatonic features present. 1 year later: Gets along well at home. Working. |
| 3 (R. F.) | M | 17 | Catatonia | 3 mos. | 12 | Much improved. Delusions disappeared. However, shallow emotional reaction. | 13 | 0 | 7 | Social remission | Marked improvement in emotional tone. Paroled. 11 months later: Patient at home in good condition. Working. |
| 4 (L. C.) | M | 15 | Catatonia, rapidly progressive | 1 year | 12 (9+3) | Mild improvement. Still hallucinated. Many dissociated delusions and nihilistic ideas. | 65 | 45 | 7 | Improved | Distinct improvement after 10 treatments. Mild relapse later on. Showed suddenly "late ripening." Home. Working. |
| 5 (L. B.) | M | 19 | Catatonic stupor | 1 month | 4 | Patient shows some improvement, but remains perplexed and helpless. Panic-like states before each treatment make it necessary to discontinue. | 11 | 0 | 4 | Remission | Complete remission. Paroled. 10 months later: Excellent condition. Working. |
| 6 (G. L.) | M | 28 | Catatonia, some paranoid features | 6 mos. | 15 | Some emotional improvement. General attitude: Blocked, suspicious, hallucinated. | 33 | 0 | 14 | Improved | Marked improvement. Paroled. Mild relapse 10 months later. Responded again to 12 subshock treatments. |
| 7 (J. K.) | M | 27 | Paranoid, some catatonic features | 1½ yrs. | 12 | Slight improvement. Basically the same psychotic personality pattern; affectivity remains "frozen." | 42 | 8 | 6 | Social remission | Greatly improved. No paranoid delusions any longer. Adequate emotionality. 4 months later: At home. Working. |
| 8 (J. K.) | M | 33 | Paranoid, some catatonic features | 3 years | 10 | "Stiff." Self-absorbed. Without any emotional tone. Retains some delusions. | 56 | 26 | 5 | Improved | Emotionally still "flat." No delusions any more. Paroled home. Does some work. |
| 9 (J. B.) | M | 22 | Paranoid, some psychopath. features | 5 years | 14 | Slight emotional improvement. Slow, retarded. Marked paranoid trend. | 35 | 19 | 4 | Improved | Fair reintegration. Paroled. 6 months later: Home in greatly improved condition. No frank delusions. |
| 10 (G. S.) | M | 18 | Simple type | Several months | 14 | "Aboulic," stiff, ego-centric; very self-absorbed. | 28 | 12 | 4 | Improved | Emotional tone much better. Anxious to "start new life again." Patient paroled home. Working. |
| 11 (G. G.) | M | 34 | Type undetermined | 10 years | 9 | Hypomanic and even more dissociated. Outbursts of violence. | 32 | 19 | 5 | Unimproved | Temporary improvement and somewhat better integrated. Repeated episodes of excitement persisting. |
| 12 (M. W.) | F | 33 | Catatonia | 5 mos. | 46 (29+17) | Tense, explosive. Impression of "impending catastrophe." Stuporous episodes. | 27 | 1 | 17 | Improved | No frank psychotic symptoms, but still somewhat tense. Gets along at home without difficulties. |
| 13 (A. J.) | F | 19 | Catatonic excitement | 3 years | 19 | Very temporary improvement. Rapid disintegration after treatment. | 68 | 32 | 16 | Improved | Distinct improvement which seems to continue 2½ months now after termination of treatment. |
| 14 (A. W.) | F | 38 | Catatonia, progressive | 2 years | 35 (15+20) | Much tempor. improvement. "Covering over" of delusions. Relapsed in one week after each course. | 64 | 25 | 33 | Unimproved | Much improvement at first. Out on visit for 2 months before profound relapse. |
| 15 (A. B.) | F | 20 | Catatonic stupor | 3 years | 16 | No change. Negativistic, mute, wets and confused. Untidy. | 32 | 26 | 1 | Unimproved | Showed moderate improvement after 14 shocks, but relapsed after one epileptic convulsion. |
| 16 (G. R.) | F | 13 | Catatonic stupor | 6 mos. | 15 | No change. Negativistic, mute, wets and soils herself. | 66 | 43 | 11 | Improved | Social and cooperative. Hallucinations have disappeared. Will go home shortly. |
| 17 (C. D.) | F | 27 | Catatonia, hebephrenic features | 1 year | 10 | Slightly better. Still silly, immature, hallucinated and explosive. | 46 | 7 | 15 | Remission | Apparently symptom free. Went home and commenced working. |
| 18 (E. P.) | F | 38 | Paranoid, progressive | 5 years | 12 | No improvement. If anything, worse. | 75 | 40 | 23 | Social remission | Much improvement in degree of contact. Almost complete fading of paranoid trend. 1 year later: Fairly good social adjustment at home. |
| 19 (D. K.) | F | 26 | Paranoid, rapidly progressive | 6 mos. | 37 (15+22) | Considerable temporary gain in emotional response. No gain in insight. Rapid relapse after each course. | 40 | 24 | 10 | Unimproved | Improvement in degree of contact. Gradual fading of delusions. Some gain in weight. Paroled. However, relapsed after one month at home. |
| 20 (G. P.) | F | 30 | Mixed type, pred. hebephrenic | 1 year | 18 | No basic improvement. Somewhat better contact temporarily. | 10 | 1 | 4 | Unimproved | Treatment discontinued on account of anaphylactic reaction. |

were only a matter of producing so many periods of unconsciousness or cerebral anoxia, regardless of the procedure used, there doubtlessly would not be these favorable results.

We also should like to mention that we tried 4 patients (Cases 4, 12, 14, 19) on a second series of electroshock treatments after a rest period, since a similar procedure had been advocated for metrazol.[18] Our results, however, were disappointing.

### *Summary*

1) Twenty schizophrenic patients showing unsatisfactory responses to electroshock treatment received insulin shock or insulin subshock treatments.

2) Seventy-five per cent of these patients showed various forms of improvement after insulin treatment.

3) Fifty-five per cent of the cases with very poor prognosis and long-standing psychotic symptoms showed worthwhile improvement with insulin after electroshock treatment had failed.

4) More than half of our series received a larger number of electric treatments than insulin comas. In spite of this, 91 per cent of the latter group responded to insulin better than to electroshock.

5) Electroshock treatment should precede insulin treatment in all cases of schizophrenia, since the former alone may be sufficient and it seems to have a time-saving effect if a subsequent course of insulin treatment is necessary.

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*Authors' Note:* Since this paper was written, an additional 7 schizophrenic patients were treated with insulin in our hospital. This group had previously received a full course of electroshock stimulation, varying from 11 to 52 treatments without satisfactory results. After the insulin treatment, 6 of this group were paroled home. The condition in 2 was described as recovered; 3 as much improved; and 1 as improved. Only one patient remained unimproved.

**LOOK TO THE FUTURE — HOLD THE WAR BONDS YOU BUY**

# The Modern Mental Hospital and Its Place in the Life of the Community*

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In 1939 there were 485 persons past fifteen years of age per 100,000 population in public mental hospitals, about one-half million persons. This does not include epileptics or mental deficients. Moreover we have not yet begun to feel the neuropsychiatric impact of World War II. There have been approximately one and a half million men and women discharged from our armed services of whom over 600,000 have been upon medical discharge. A conservative estimate is that one-third have been released because of neuropsychiatric conditions, approximately 200,000. While no one knows what the incidence of neuropsychiatric conditions will be among the veterans finally discharged at the end of the war, we do have some indications of what it is liable to be. With a total personnel of possibly twelve million, the number suffering from mental illnesses may be appalling.

During the past ten years the population over sixty-five has increased 35 per cent. There are now about nine million people past 65 years of age in our communities today, almost as many, in fact, as the number in the armed forces at the opposite end of this adult age group. This rapid increase in the older age group is obviously responsible for the staggering advance in admissions (over 500% in the last twenty-five years) to mental hospitals in the group diagnosed as psychosis with cerebral arteriosclerosis.

These are two of the major problems faced by the mental hospitals of which the state hospital is obviously the largest group and which therefore faces the greatest responsibility. With intricate problems and responsibilities come opportunities as well. During and after the last World War modern psychiatry received great impetus. Now again psychiatry is undergoing sharp stimulation and broad recognition, due not only to the publicity given the tremendous incidence of neuropsychiatric disorders attributable to the war, but also to the force of the impact of such a large number of neuropsychiatric conditions upon our personal and every-day life. The public is looking to psychiatry and to our neuropsychiatric institutions for the solution of these pressing problems, both for the treatment of patients requiring institutional care and for a workable program of prevention and mental hygiene that will extend into our cities and to the remote areas of our population.

There is no community, either urban or rural, that has not felt the impact of this war in some way. It is not an exaggeration to say that the "hope of the world" as far as a mental disease is concerned lies in the state hospital and other public hospitals. The state hospital is charged by law with the direct responsibility for the care and treatment of individuals who are mentally sick and who have regressed to the point where their mental health is no longer compatible with the standard required by their communities. It is true that private hospitals have made great contributions in research and in a number of instances have been leaders in setting up standard methods of treatment, but the number of patients actually reached by the private hospitals is small compared to the number handled by public hospitals. The admittance rate to all state and public mental hospitals has increased tremendously and continues to increase to such an extent that more and more buildings, money and personnel must be provided to keep abreast of current increases, much less stem the tide of this expected overwhelming increase.

The state is faced with two alternatives. It can launch a program looking to the construction of more and more buildings, with the large expenditure incident to such a program, and it can continue to follow this policy of erecting more and more buildings to keep pace with the ever-increasing population in its state hospitals and correctional institutions. The other alternative is the adoption of a program that has as its objective cure and prevention of mental disease, intelligent

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employment of modern methods for the care of the mentally sick now and for handling the problem in the future. This latter alternative involves not only active treatment of patients in the state hospital at present, but also the discovery and development of methods looking toward the prevention of mental disease and delinquency in the future.

Of course the state hospital should be stimulated in every way to carry out the functions for which it was intended, that is of treating people who are mentally sick. The only justification for the existence of the state hospital is its function in treating people who are mentally sick. This alone warrants the appropriations made for the operation of the hospital. This purpose justifies the hospital farming acres of land, maintaining a dairy herd of milk cows, employing large staffs, beautifying the hospital grounds, and expending millions of dollars for groceries, fuel, materials, freight and wages. If there were no patients then there would be no hospital, no farm, dairy, grounds, physicians, nurses or other employees. Certainly operation of the hospital should be as economical as possible compatible with efficient and thorough treatment of sick people. The hospital should be as nearly self-supporting as it can be, i.e., by utilizing intelligently the natural advantages that such an organization affords by reason of its large patient population of physically able-bodied people for whom work offers one of the best and most efficacious forms of therapy and treatment yet devised.

Since the principal interest or endeavor of this or any other hospital is the treatment of the sick, it is to be expected that the physicians charged with the responsibility of treatment should strive to adopt practices and principles that have proved of unquestionable value during the past in the attack upon and solution of medical problems. Today no attack upon any specific medical problem is considered well organized and complete unless it embodies these three cardinal principles: (1) Prevention of the specific disease; (3) Intensive treatment of those sick with the specific disease; (3) Follow-up care and study of those who have improved or who have recovered from the disease in question. It is true that certain types of mental disease are thought by some to be incurable. Many other diseases, considered incurable a few years ago, have now been placed in the preventable or curable class by the employment of the fundamental principles set out above. Tuberculosis, typhoid fever, smallpox, pernicious anemia, and diabetes are only a few of the specific diseases that a few years ago were thought to be fatal, but which have been conquered by the application of intelligent scientific principles of prevention, intensive treatment and follow-up care. Is it too much to expect in the light of the present trend, in reviewing results in the treatment of mental diseases, that they, too, may not capitulate to some extent at least to modern methods of attack upon the disease that have given favorable results in other types of illness?

The first and most important step in this program is attracting and employing a staff of physicians and therapists who are interested primarily in an active program of curative and preventive psychiatry. Every method employed in the treatment of the mentally sick should be made available, including those procedures applied by physicians and nurses, and those employed by various therapists such as occupational therapists, industrial therapists and recreational therapists.

When a patient is sufficiently restored to health to return to society, even though in a somewhat protected atmosphere, a service should be established whereby arrangements can be carried out to get the patient out of the hospital before he becomes so institutionalized that his chance of leaving becomes almost negligible and he goes to join the ranks of permanent custodial cases. A psychiatric social service should be instituted and adjusted to fit local conditions, to assist people in getting well, and in placing patients who are ready for it back into society. A most urgent need at present is to get patients home when they are able to go so that these improved patients will not remain in the hospital until they deteriorate into a chronic type. Another valuable service that can be rendered by an efficient psychiatric social service is that of liaison between the hospital and the patient's former environment. Such a service can collect and evaluate information regarding the patient's home situation, his history concerning the inception of his illness, and in many cases the factors that caused the patient's breakdown so that the treatment of the patient's case can be much more intelli-

gently and efficiently applied by the staff at the hospital.

There is no thorough and complete program of medical endeavor that does not include a campaign for prevention of disease. This is true of tuberculosis and cancer, as well as mental disease and delinquency. A campaign for the prevention of mental disease and delinquency should be launched and fostered by the state just as it fosters and contributes in money and personnel to a campaign against tuberculosis, cancer, typhoid fever and other conditions. Concern by a state hospital in child welfare is essential, for "the child of today is the inmate of tomorrow." It has been stated that one child in every eighteen school children in the United States will be an inmate of an institution, either correctional, penal, or neuropsychiatric, if the present trend continues. Whatever steps can be taken toward preventing such conditions certainly are justifiable upon the part of any state hospital.

It is becoming more and more apparent to those interested in the problems of human behavior, which certainly include mental illness and delinquency, that the foundation for a vast majority of cases of mental illness and delinquency is laid down in early childhood. General dissemination of knowledge about mental conditions and delinquencies, their cause and their prevention as well as their treatment, should be the first objective in such a program of prevention. This educational program should be carried not only to the medical profession and to allied and professional groups but to the laity as well.

More time and broader facilities should be provided in our medical schools for the teaching of psychiatry and mental hygiene to the medical students. Fellowships and appointments should be given by the state hospital to physicians to encourage the study of a training in the treatment of mental disease. Research through fellowships and scholarships should be encouraged by state hospitals, particularly in the practical application of the treatment of mental diseases. Postgraduate work for the training of physicians and nurses in mental disease could well be given by the staff at the state hospital.

The laity can be educated through the press, from the lecture platform and talks before various bodies, including educators, clergy, service organizations and civic-minded groups that mental disease is not a disgrace, that in many cases it can be prevented, and that in a great number of cases one afflicted with such an illness can be restored to health through the proper application of modern methods of treatment.

The state, as an important part of its program of mental hygiene, should promote the establishment by its state hospitals of outpatient clinics in strategic locations, operated by the staff which would be available to the people in the territory served by each state hospital. The clinics should be divided into an adult unit and a child-welfare or child-guidance unit. The clinic for adults would be available to the patient who has progressed at the hospital sufficiently to be restored to his community if he can receive at regular intervals psychiatric observation and help. This would serve a two-fold purpose: Patients could be removed from the hospital earlier, and once out of the hospital there would be a greater chance of their staying out if such clinical facilities are provided.

The child-welfare or guidance clinic more nearly approaches the function of prevention of disease and delinquency than does any other form of clinic. Children with behavior problems, children with learning difficulties, children who have started on the road to delinquency as manifested by truancy, pilfering, fighting, etc., as well as children who have some actual psychological maladjustment, can be seen and appropriately treated. It is from the operation of such a clinic that the investment in effort and resources should pay large future dividends in keeping many people out of our state hospitals and correctional institutions and in a considerable measure obviating the necessity of constructing more and more buildings in the future.

Nothing in such a program may be reasonably interpreted as an attempt by the state to compete with the private practice of psychiatry. Although such a program will add additional expense to the operation of the state hospital, the amount spread over the years would be small as compared to the cost incurred in the continual erection of new buildings. The good to be gained through the prevention of even a small part of our delinquency and mental illness would be immeasurable in promotion of human happiness.

One who has followed the mental hygiene movement in recent years and the development of psychiatric social work, and is familiar with the literature in these fields knows and understands emphasis that has been placed on psychiatric clinics. The preponderance of opinion is that such clinics are our greatest asset in helping the lagging portion of our people in successfully bridging the gap between the level of their instinctive behavior and the complicated socialization that our modern civilized life demands of us. The ever-increasing number of clinics is proof of this result. The volume of cases that have been treated successfully mounts and mounts and their record is reported not only in the technical literature of the field, but also in popular periodical publications. These and many other signs are evidence that the psychiatric clinic is strong and effective in the struggle for better mental health for large numbers of people.

In this country, particularly in the middlewest and south, the institution most closely associated with mental illness of the masses is the state hospital. Yet, by and large, the state hospital and other legally designated agencies of the state dealing with mental illness have done little to prevent the ever-increasing admittance rate that swells their population until bed space is at a premium. Nor is the reason due to a lack of recognition of the true problem on the part of individuals charged with the responsibility of such institutions. On the contrary, hospital superintendents and state directors of departments of mental hygiene have an adequate and comprehensive understanding of the problem. Most of these individuals, if approached privately and individually, would state that while they fully concurred in the idea of psychiatric clinics there is nothing that they can do until legislative bodies provide the funds to cover the cost of personnel and other expenditures. The essence of this attitude in many instances is that it has thrown upon private agencies the responsibility of demonstrating the value of any such clinics. Any forward step on the part of the state institution or agency will hasten the advent of a more adequate program in connection with the prevention of mental illness, intensive treatment of the hospitalized, and better social adjustment for patients improved sufficiently to leave the hospital.

In most states public welfare received a tremendous impetus with the advent of emergency relief measures in 1933 and subsequent legislation establishing state welfare departments. For example, the Kansas Social Welfare Act was not passed until 1937 but it was sufficiently broad to take cognizance of all the major social welfare problems within the state. Although compared with other states, public welfare was late in being put on a permanent basis, yet with an adequate social welfare program provided for and being developed along inclusive lines the potentialities for cooperation between it and the state hospital were manifest. In Kansas there are three state hospitals of which the Osawatomie State Hospital is one. In a general way it serves the eastern portion of the state. The largest county in the area is Wyandotte County in which the City of Kansas City, Kansas, is located. The population of the city and county is approximately 135,000. It furnished the Osawatomie Hospital with a large number of patients, an average of about 400, or one-fourth of the patient population. There is an average intake from Wyandotte County of approximately sixty-five patients per year.

Formerly little assistance was available for those persons returning to Wynadotte County from the state hospital and attempting to readjust themselves to community life. The patients were literally "pushed off the deep end." The state provided a parole system with a personnel of eight parole officers for some fifteen state charitable and correctional institutions. It was an obvious impossibility to render any sort of individual service to parolees due to the limited number of officers and the large number of persons leaving the various state institutions. Consequently practically no help was offered the convalescing mental patient. Furthermore, there was much confusion because of the policy of using the same parole officers for individuals who had come to an institution because of illness and those whose criminal propensities had landed them in a penal institution. The parolee could expect no great amount of help from local sources because there were no psychiatric facilities available in the community. The only agency that could offer any service of value was the Wyandotte County Social Welfare Department. Without psychiatric recom-

mendations they were too much in the dark concerning the individual's psychology to be of much assistance. Unless the family was a dependent one, the parolee would not even come to the attention of the Social Welfare Department until he had become conspicuous by his failure to adjust.

To alleviate this situation it was thought that some sort of clinic facilities would be of value, particularly in the relatively dense population area of Kansas City, Kansas. While the legislature makes regular appropriations for the operation of the hospital proper, there were no funds available for the creation of out-patient facilities nor did it seem likely that they could be procured in the near future. Local government was in no position to assume the financial responsibility for the entire expense of the operation of any sort of psychiatric clinic. Such a situation is by no means peculiar to Wyandotte County, being generally prevalent throughout the nation. Usually such situations result in a dead end in which nothing is done. However, in Wyandotte County the dilemma was solved by the splendid cooperation of three public agencies, each of which threw its complete efforts into the task of providing a psychiatric clinic for Wyandotte County.

The Osawatomie Hospital furnished the services of a psychiatrist, a psychologist, and a consultant in social service. The Wyandotte County Board of Social Welfare offered quarters, nurses' time, and most important of all the services of their staff of social service workers to carry out the recommendations of the psychiatrists. The third agency, the probate and juvenile court of Wyandotte County, gave support and intensive effort that was of vital importance since that is the agency directly in contact with children and committed patients. By dint of their effort a psychiatric clinic was started for a city where no facility had existed previously.

The value of this clinic to the community and the state hospital is incalculable. To the hospital it is of utmost value in materially helping paroled patients to effect a readjustment on their return to the community. The accessibility of the clinic permits curtailing the period of hospitalization for many patients. In many instances patients were actually kept out of the hospital by means of an arrangement between the hospital and committing authorities whereby pre-commitment examinations were held and recommendations made to the committing authorities. Numerous patients were referred to the hospital out-patient clinic for care which obviated the necessity of actual commitment and hospitalization.

From the standpoint of the community, the clinic's value is readily apparent. Many paroled patients who formerly were able to adjust to a limited extent socially failed altogether in any economic adjustment. They soon would be on the assistance rolls of the county social welfare board. With the advent of the clinic these cases could be handled more intelligently and with a greater chance of a successful economic adjustment. The clinic was available to the Wyandotte County Social Welfare Department, the juvenile courts, the Children's Service Bureau, and any other recognized social agency in the county. These agencies are able to do more adequate rehabilitative work than previously and the major social agencies of the community are more effective as a result of the experience gained in handling the cases referred to the clinic. In line with this, the hospital staff gave the county workers a series of lectures and conferences on psychiatric social service work.

In addition to the Community Clinic operated in Kansas City, Kansas, the state hospital at Osawatomie operated weekly clinics at the hospital itself, one for adults and another for children. This clinic was located in a building apart from the rest of the hospital and the adults and children were handled separately. The hospital also furnished psychiatric and psychological consultation for the State School for the Deaf, for the State School for the Blind, for the State Children's Home and for the State Industrial School for Girls.

How can all of this be done? How can such services be furnished? Where will the money come from? How can administrative and legislative bodies be made to see these needs? These and other questions obviously arise. The demand for these services is present and this demand will become increasingly voluble and insistent as the impact of the neuropsychiatrist disorders incident to this war and its aftermath become more and more apparent to the population. The answers must be

found. Education as mentioned before is one answer. The professional groups, the physician, lawyer, educator, social service worker, clergy, parents and others can be invited to the hospital. The staff can appear before these groups to deliver talks upon topics in the field of mental hygiene. The public has never been so intelligently, sympathetically and avidly curious about neuropsychiatric conditions than at the present time. When groups visit the state hospital, there should be something worthwhile and constructive for them to see and this requires intelligent planning by those in charge.

Public welfare employees and workers are in direct contact with these problems and yet few are trained or qualified social service workers in the orthodox sense of the word. They are faced with a multitude of problems on which they need advice and they are willing to make sacrifices in time and effort to obtain it. If the state hospital does not offer a proper course of training to meet the needs of this group in the community served by the state hospital, it is overlooking an opportunity of vital importance and is failing to enlist the assistance of individuals in the community served by the hospital who can give excellent service. I know from personal experience that these men and women can be taught to obtain, write up and present good case histories, not only for out-patients but also for in-patients. They can be trained to do an excellent job of carrying out directions for home care and community adjustment of paroled patients as well as social service work on patients being handled in out-patient clinics.

To the trained and qualified psychiatric social service worker a policy of training and utilizing public welfare employees to do social service work may sound like rank heresy. I am not one to decry or minimize the contribution of the psychiatric social worker. The difficulty is that there is just not enough of them to go around and that the problems and demands upon the services of the state hospital are too overwhelming for us to wait until there are sufficient psychiatric social service workers. The ideal situation would of course be to have at least one qualified social service worker in each state hospital to train, develop and utilize the resources present in the community served by the hospital.

The state hospital should have a plan to develop its own staff. The plan must be tangible, well prepared and well administered; something worthwhile; attractive in the way of clinical possibilities for training, for research, advancement and recognition; a plan that will challenge and attract physicians to the staff.

It should extend as far back as the state hospital's relationship with the medical school. Arrangements should be made to have medical students assigned to the state hospital for training while living at the hospital itself. Here again the program should not be a haphazard, sociable week or two spent by the student, but one that is systematic, attractive and challenging. Resident training should be established and perpetuated. Opportunity should be given for an intelligent contribution to the treatment of patients, for research, for the preparation of papers, for presentation of material before professional and lay groups, for attendance at scientific meetings, for individual recognition and for responsibilities other than tiresome ward rounds or that of remaining on duty while the senior staff takes a day off on Sundays and holidays.

Psychologists can be obtained through fellowship arrangements with state universities and other educational institutions whereby graduate students can render excellent psychological services while working on problems of clinical psychology for master or doctor degrees.

Psychiatry deals primarily with human relationships. There is another professional in each community, no matter how large or small, who has for generations been spending his life dealing with human relationships. He has accumulated vast knowledge concerning human behavior, human relationships and even the most personal of human relationships. People for generations have been taking their emotional problems and difficulties to him long before and in much greater numbers than they have taken these problems to the psychiatrist. This man understands and can interpret public opinion and is a great force in molding it. He is community minded and socially conscious. He is anxious to make any contribution to any good thing whenever possible, and he has much to contribute to psychiatry, especially to the psychiatric implications and mechanics of mental hygiene. I refer to the clergy man.

I do not recall a more interesting, enlightening or more valuable experience in my professional career than that of having groups of ministers spend a two-week period, living in with the staff in the state hospital. The first groups were selected by an inter-denominational committee. They came at the same time as the medical students. They attended the lectures that were given to the medical students; they attended lectures and demonstrations given by the staff to welfare employees; they did histories on selected patients; they attended staff conferences; they sat in at conferences with relatives. They were given complete freedom of the place and had the opportunity to observe every activity of the hospital. Seminars were planned in the evening in which they participated. Their discussions with the staff were fascinatingly interesting. Their criticism was constructive, and I am not sure but what the staff learned more from them than they did from us. One great contribution from this group, as far as the institution was concerned, was that a very intelligent, extremely social-minded group of professional people intuitively sensed some of the handicaps that state hospitals have struggled with for years, e.g., lack of trained and sympathetic personnel, lack of equipment, lack of funds, and the need for interpretation to the public of the state hospital's needs, problems and potentialities.

Upon leaving the hospital they set to work to use their influence in bringing about a better understanding and interpretation of the hospital to the community it served.

*Conclusions*

1) Psychiatry has received a tremendous impetus due to World War II.

2) Society has felt as never before the need for psychiatric help with its increasingly extensive problems due to the war.

3) The state hospital faces its greatest responsibility but also faces its greatest opportunity for carrying out its primary function —that of treating mentally sick people.

4) No intelligent problem for treating sick people is complete unless it embodies the three cardinal principles of prevention, treatment and follow-up care.

5) The state hospital can carry out its function if it grasps this opportunity, if it develops, utilizes its own inherent potentialities, its professional resources as well as its own community resources.

6) The state hospital, in spite of all of its handicaps, has historically made tremendously constructive contributions and there is no reason to believe that it will not continue in its outstanding position as a bulwark of strength and ingenuity in the treatment of the mentally ill, no matter what demands are made upon it.

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# Neurological Clinical Pathological Conference

*of the*

## Cincinnati General Hospital

CHARLES D. ARING, M.D., *Editor*

### *Presentation*

The patient was a 68-year-old white widow with an essentially negative past history who first came to the Medical Out-Patient Dispensary in September, 1943, with the complaint of diarrhea. The pertinent physical findings at that time included a blood pressure of 165/110 and the presence of large internal and external hemorrhoids. Neurologic examination was negative. Stool was negative for occult blood. Diarrhea ceased in two weeks, but in the course of the follow-up visits it gradually became apparent to the observers that the patient seemed somewhat retarded intellectually and she soon earned the traditional title of "uncooperative." She complained of weakness, tiredness and appeared depressed and lethargic. In October, 1943, she came to the clinic complaining of severe headache "all over the head." Blood pressure that day was 138/80. She had become involuntary and seemed unable to take care of herself. Her weight had dropped from 235 to 175 over an unknown period of time. On October 27, 1943, she was admitted to the psychiatric service.

The patient was a well-developed obese woman who dozed during the examination. Blood pressure was 200/80. Neurological examination was normal. Hemorrhoids were present. Mental status revealed considerable retardation, inattention, lack of spontaneity and drowsiness, but she was correctly oriented and performed fairly well on the memory tests. Characteristically she would doze off before the longer tests could be completed.

*Laboratory Data*—Hgb. 15 gm., WBC 16,500. Blood Kahn, negative. Lumbar puncture: I. P. 170 mm. $H_2O$, 6 cc. water-clear fluid removed. F. P. 70 mm. $H_2O$, 3 lymphocytes. Protein 138 mg. per cent, sugar 71, chloride 716 mg. per cent. Wassermann, negative.

The patient was very inactive on the ward and spent most of her time in bed although she was allowed up. After two weeks she was discharged.

One week later she was seen in the rectal clinic and referred to surgery service for hemorrhoidectomy. Admission examination revealed no new findings. Blood pressure was 150/80. Ten days later the operation was performed under spinal anesthesia with morphine and scopolamin as pre-anesthetic. Postoperatively she was confused, particularly at night when she had sense deceptions. After three days she was discharged to a nursing home.

At the nursing home the patient was confused, weak, somnolent and from time to time complained of headache. After one week she was observed to have difficulty walking and one day fell to the floor and had to be helped into bed. Thereafter she was bedridden, and it was thought that the left side seemed weak. She was readmitted to the hospital two weeks after her last discharge.

Examination at this time recorded T 98.6, P 88, R 18, B.P. 115/65. The patient was now incapable of giving a history and performed poorly on the mental status test. Neurological examination revealed only minimal weakness of left arm and leg.

In the course of the next three days the minimal weakness on the left progressed to a frank flaccid hemiplegia. Neurological examination revealed left facial weakness (supranuclear), left hemiplegia, tendon reflexes on left slightly diminished and extensor plantar signs on the left. Fundi were normal. Adequate cooperation could not be secured for sensory or visual field tests. Lab data on admission included: Hgb. 14.5 gm., WBC 13,000, EKG normal.

On the seventh day before any further diagnostic procedures were carried out, the patient became acutely ill, complaining of severe upper abdominal pain, worse on inspiration. This was associated with tachycardia (120-130/m), tachypnea (40-50/m) and rise in temperature to 102° F. Blood pressure 120/80. Examination of the chest revealed slight dullness, a few fine rales and a friction rub at the left base, axillary line. Heart not enlarged and there was a soft apical systolic murmur. The abdomen was somewhat distended and

there was tenderness and resistance, most marked in the upper quadrants but also in right lower quadrant. Rectal and pelvic examinations revealed no definite abnormalities.

Laboratory studies following this development revealed: WBC 18,000, Hgb. 12 gm. Urine: Sp. Gr. 1.034, Alb. +, Micr. 0. Serum amylase, 136 u. B.U.N. 13 mg. per cent. E.K.G.: Sinus tachycardia, rate 120. PR 0.14, QRS 0.08, $ST_{1\,4}$ depressed; $ST_3$ elevated. $Q_3$ present; $T_{1\,2\,3}$ low voltage. X-ray: (7th day) AP chest (short focal distance). Moderately enlarged heart. Evidence of atherosclerosis. Scattered infiltrative lesions seen at both sides. Eighth day, no change.

The temperature remained between 100 and 101 and pulse between 100 and 120 for a week and then again approached normal. On the eighth day the entire left leg was noted to be markedly edematous. During the third week the patient seemed slightly improved, but in the fourth week tachycardia, tachypnea and fever (101-103) again developed. Few scattered rales, patchy dullness and diminished breath sounds were heard in both lung fields. White count ranged between 18,000 and 25,000. Sulfadiazine was administered for several days without any effect. From this point the patient went progressively downhill. Decubitus ulcers developed over sacrum and became very extensive. Edema appeared in the left arm and later in right leg. She became comatose and head and eyes turned to left. Breathing was rapid, shallow and labored with periods of apnea, and terminally temperature rose to 104. Rectal and pelvic examinations revealed no abnormalities. The patient died on the 41st hospital day.

*Laboratory Data*—Lumbar puncture: (22nd day) I. P. 110, F. P. 10, water, clear fluid. Protein 59 mg. per cent, 9 RBC's. (40th day) I. P. 100, F. P. 54. Total protein 38 mg. per cent, 4 lymphocytes, 1 poly, 4 RBC's. Urine showed many RBC's and WBC's (patient had indwelling catheter). Culture of decubitus—B proteus, staphylococcus and streptococcus (not isolated). Roentgenograms of the skull revealed hyperostosis frontalis, prominent vascular channels bilaterally. The calcified pineal gland was not shifted.

### *Differential Diagnosis*

Dr. Milton Rosenbaum: The patient was a 68-year-old white widow with an essentially normal past history, who first came to the Out-Patient Department in September of 1943 with the complaint of diarrhea which ceased two weeks later. A person of 68 with diarrhea should make one consider neoplasm of the gastroenteric tract. However, there was no occult blood in the stool and the matter apparently was not investigated further, even though she became involuntary later. She had some hypertension, otherwise the examination was normal.

The patient gradually became uncooperative, and it was later decided that she was confused and demented. She complained of weakness, tiredness, depression and lethargy. A most important single complaint was in October when she had severe generalized headache. Her blood pressure at that time was 138/80. It has been my experience that headache is not a common complaint in older people, who may have cerebral arteriosclerosis. When an older person begins to complain of severe or constant headache, one should be alert to the possibility of progressive intracranial disease. According to the work of Harold Wolff and his group, the basis of most headache is dilatation of cerebral vessels, which supports our clinical impression since older vessels are not so labile. I am inclined to stress this point as quite important. She became involuntary and was unable to care for herself, which evidently means that she was getting worse.

From the history to this point, one could not say much more than that she had organic brain disease with dementia. Her weight had dropped from 235 to 175, a finding that could be helpful or confusing; certainly one would have to think of carcinoma.

On the Psychiatric Service in October, examination described an obese woman who dozed during the examination. This seems to me quite important, for few senile patients doze during examination. The blood pressure at this time was 200/80; in other respects she was essentially normal. The mental state was interesting. She was considerably retarded and there was drowsiness and lack of spontaneity, in spite of which she was oriented. The thing that stood out in the mental evaluation was that here was a woman who fell asleep during the examination, but apparently when attention was gained she performed well; the picture of a person slipping in and

out of consciousness. So you have the feeling that with urging this woman could have performed well, and that the diagnosis is related directly to the reason why she was falling asleep.

There is some diagnostic aid in the laboratory work done during her early course. The CSF pressure was 170 mm. of water, which might be considered to be on the borderline of normalcy. Some think that 180 mm. is the highest pressure that may be considered normal. Then we come to a point which, if it is correct, suggests the initial diagnosis. On removing only 6 cc. of cerebrospinal fluid, the pressure dropped from 170 mm. to 70 mm. Usually if there is a large reservoir of cerebrospinal fluid, a considerable amount must be removed to drop the pressure measurably. On the other hand in a patient with a small reservoir, a small amount removed will drop the pressure precipitously. In this case the removal of a small amount of cerebrospinal fluid lowered the pressure somewhat more than would have been expected. The cerebrospinal fluid pressure and the dynamics are of extreme importance in this case as is also the protein content in the cerebrospinal fluid (138 mg. per cent) which was markedly increased.

Here we have a woman with headache, signs of dementia, and cerebrospinal fluid signs of active pathological process in the central nervous system. Why the patient was dismissed from the hospital I do not know, for at this point the patient should have been suspected of harboring a brain tumor. Other things might have been considered; for example, a vascular lesion. Evidently not a cerebral thrombosis, however, since there were no localizing signs and there had occurred a gradual onset; too, the protein content of the cerebrospinal fluid mitigated against this diagnosis. What of cerebral hemorrhage? She might have had a hemorrhage; the complaint of headache might appear to indicate that something happened acutely in this brain, which would have had to be in the frontal or right temporal lobe since it was relatively silent. Against hemorrhage was the absence of blood from the cerebrospinal fluid and the lack of dramatic symptoms on which we usually depend. I think these facts rule out hemorrhage. I believe she had a brain tumor, either primary or secondary. The points that might favor metastatic lesion are the age, loss of weight, increasing white blood cell count, and perhaps the diarrhea.

One week later she wandered into the rectal clinic for hemorrhoidectomy. Physical examination revealed no new findings. Ten days later she was operated upon. What she did during those ten days is not clear. She probably slept. Then apparently after operation she was found to be confused, and she had hallucinations. Three days later she was sent to a nursing home. She was weak, and complained of headache. After another week it was noted that she had difficulty walking and one day she fell without obvious injury. Thereafter she was confined to bed and it was noted that her left side was weak.

Two weeks after her discharge from the hospital she was readmitted. Again the neurological examination was normal except for minimal weakness of the left extremities. During the next three days hemiplegia developed. The hemiplegia had occurred in the course of ten days. The laboratory findings were normal except for slight leukocytosis. What produced the hemiplegia? The blood pressure at this time was 115/65. Previously she had had hypertension, and there was no evidence of kidney disease. She probably had essential hypertension. The fluctuating blood pressure readings fit such a diagnosis.

They were about to find out what the matter was, when something acute happened. The patient complained of severe upper abdominal pain, worse on inspiration, and there were EKG changes. These changes were compatible with the diagnosis of myocardial damage or of pulmonary embolism. It is significant that in an EKG taken previously, there was no evidence of myocardial damage. Therefore, the patient probably had suffered pulmonary embolism. To support the diagnosis of an acute catastrophe was the increased white blood count and the slight hemoglobin drop. The plates of the chest showed scattered, infiltrative lesions at both bases and the temperature remained between 100 and 101 degrees F. Then apparently this thing subsided. The left leg then became edematous, which would fit nicely with the diagnosis of pulmonary embolism.

Edema may appear in a paralyzed extremity since venous return is not encouraged. Is that the reason for the leg edema in this case? The acute abdominal pain developed on the

seventh day, the edema of the left leg on the eighth day. Where did the pulmonary embolus come from? Surely she had developed thrombophlebitis in the left leg and the pulmonary embolus came from there. One usually does not worry about an embolus being thrown off after swelling develops, embolic phenomena in thrombophlebitis are manifest before the edema. She improved again, but in the fourth week developed bronchopneumonia and from this point went rapidly downhill. Decubital ulceration developed over the sacrum, and edema appeared in the left arm. She was now quite ill, the illness had lasted three to four months and she had signs of lung disease, so that the latest edema may have been due to the stasis associated with lack of movement. Then edema appeared in the right leg. I do not know whether or not she had thrombus formation in the right lower extremity.

Then we come to a complication from the standpoint of diagnosis; the final two lumbar punctures. The first of these cerebrospinal fluids contained increased protein (59 mg. per cent), the second a normal protein, and the pressure readings were normal. An explanation is extremely difficult. If we cling to our original diagnosis of brain tumor, it appears that while the patient was getting worse, the cerebrospinal fluid was getting better. It is rather confusing, though we certainly know that the protein content may vary in the cerebrospinal fluid, even with neoplasm. On the other hand, one might like to consider this disease in the nature of some vascular disturbance. That originally the patient had softening, then the acute process subsided. But I do not think that I shall give up my diagnosis because of the cerebrospinal fluid findings at the end. The x-rays of the skull do not help much; the calcified pineal was not shifted. The pineal not being shifted would be against an intracranial neoplasm involving the posterior half of the hemisphere.

The diagnostic summary of the cerebral condition might be considered as follows:

1) Brain tumor. In favor: history, initial cerebrospinal fluid findings, and the course of the disease. Against: the final two cerebrospinal fluid examinations;

2) Metastases, which might have also accounted for pulmonary findings and edema of the lower extremities (tumor in pelvis). In favor: age, loss of weight, and edema in the legs. Against: findings in lungs, not those of metastases, normal x-rays of skull, normal red blood count and hemoglobin, no primary lesion was found;

3) Cerebral vascular disease. In favor: age, some of the cerebrospinal fluid findings. Against: history and clinical signs.

My final diagnosis is glioblastoma of the right frontal lobe, encroaching on the Rolandic fissure, thrombophlebitis of the iliac veins with pulmonary infarction, and terminal bronchopneumonia.

Dr. Richard Vilter: We have many older patients coming to Medical Clinic with normal blood pressure and throbbing headaches, and arteriosclerosis in eye grounds. I know they can't all have brain tumor, there are too many. The headache may go on for long periods of time. It may disappear spontaneously in three or four months. Can anyone give a physiopathological explanation for such headache?

Dr. Rosenbaum: No. I had thought headache in the aged rather uncommon.

Dr. Joseph Webb: I think some of these headaches may be due to hypertrophic arthritis in the neck.

*Clinical Diagnosis*

First admission: Arteriosclerotic dementia.

Second admission: Brain tumor suspect.

Final admission: Iliac thrombophlebitis with pulmonary embolism and infarction; possible brain tumor, right frontal lobe.

*Doctor Rosenbaum's Diagnosis*

Glioblastoma, right frontal lobe, encroaching on Rolandic fissure.

Thrombophlebitis of the iliac veins with pulmonary infarction.

Terminal bronchopneumonia.

*Anatomical Diagnosis*

Cystic astrocytoma with malignant degeneration in right frontal lobe.

Iliac thrombophlebitis.

Pulmonary embolism and infarction (an organizing gray infarct, estimated age, one month).

Moderately advanced generalized atherosclerosis.

Fibrosis of the myocardium, left ventricular cardiac dilatation.

Passive congestion and fatty infiltration of liver.

Terminal acute bronchitis and lobular pneumonia.

Diverticulitis of sigmoid colon, acute and chronic.

*Discussion of Pathology*

Dr. I. Mark Scheinker: On gross examination the brain showed a fairly normal appearance except for fullness in the right frontal region with underlying softness to touch. It is of interest to note that no signs of increased intracranial pressure could be detected; there was no flattening of the gyri and no evidence of uncal herniation or cerebellar pressure cone. These findings explain the normal cerebrospinal fluid pressure, and the absence of choked discs and other symptoms characteristic of increased intracranial pressure.

Multiple coronal sections were made through the brain; main interest centers about the sections made through the frontal lobe. In the central portion of the right frontal lobe there was a well defined neoplasm with a relatively large cyst lying laterally to the tumor. In sections made through the posterior aspect of the frontal lobes there is evidence that the neoplasm is immediately contiguous to the corpus callosum and involves the left frontal lobe to a slight degree.

The microscopic sections disclosed findings typical of a cystic glioma with malignant degeneration and large areas of necrosis and softening. The latter was probably due to thrombosis of some of the blood vessels of the tumor tissue. In some areas of the neoplasm there were giant cells and mitoses, and variance in cell type.

We are dealing with malignant degeneration of a cystic astrocytoma involving the right and a bit of the left frontal lobes. Malignant degeneration of a benign astrocytoma has been observed frequently; some pathologists were inclined to believe that surgical intervention could be held responsible for it. This case shows that malignant degeneration may occur spontaneously and without surgical intervention.

A point of interest is the fact that a relatively large tumor involving the anterior portion of both cerebral hemispheres did not produce an increase of the intracranial pressure, which means that the clinician cannot always rely upon the absence or presence of such symptoms in making a diagnosis.

The main interest of the case lies, however, in the clinical symptomatology. The question arises: "Did the patient present manifestations that would make it possible for the clinician to make a correct diagnosis?"

I think that the mental state presented by the patient may sometimes be considered as characteristic of frontal tumor. We see drowsiness in patients with increased intracranial pressure and never consider it in localization, but in this case in which there was no increase in intracranial pressure, I think the drowsiness has localizing value. The "considerable retardation, lack of spontaneity, and drowsiness" associated with fairly well preserved orientation and memory is, to my mind, characteristic of bilateral frontal lobe involvement. This mental state is observed seldom in unilateral frontal lobe destruction. In addition, the presence of frontal lobe ataxia is of considerable confirmatory value. Our patient had difficulty in walking and one day fell, possibly because of ataxia. The left sided hemiplegia is to be considered as a late symptom and was of no great diagnostic value.

Finally it should be mentioned that laboratory findings are of great help if they corroborate clinical observation. They may become the source of confusion if diagnostic thinking is too much influenced by laboratory findings.

Dr. Rosenbaum: I think Doctor Scheinker is a bit too anatomical in his discussion. One knows of any number of patients with delirium who do not have frontal lobe tumor and who are slow, and if yelled at will answer eventually. There is no specific localization of delirium. In the second place, I think it makes a difference if one is dealing with a person in the second or third decade of life or one in the sixth.

Any type of change (tumor, infection, son going into the Army) may produce certain mental symptoms. For the students to go away with the idea that this is a specific sign of frontal lobe tumor is dangerous. One need only recall Brickner's patient, who functioned rather well without his frontal lobes, to know that such symptomatology as was seen in our patient may have nothing to do with frontal lobe function. So you can't be too specific

about these things. I would surely be inclined to agree with Doctor Scheinker that such things do happen, but I do not think one can pontificate on such happenings.

Dr. Richard Vilter: Is there any explanation for fall in protein in the sequential cerebrospinal fluid examination?

Dr. Scheinker: I would not be able to give a definite answer. The proximity of the tumor to the anterior extent of the right frontal ventricle may have influenced the protein content of the cerebrospinal fluid. The cyst communicated with the ventricle.

## NATIONAL COMMITTEE FOR MENTAL HYGIENE WILL MEET IN NEW YORK

Dr. George S. Stevenson, Medical Director of the National Committee for Mental Hygiene, has announced that the 35th annual meeting of the Committee will be held on Wednesday, November 8 and Thursday, November 9, at the Hotel Pennsylvania in New York. Morning and afternoon sessions will be held. There will be a luncheon meeting for Mental Hygiene Societies' executives on Wednesday, and the annual luncheon of the National Committee on Thursday.

Topics for the various sessions will include "Mental Hygiene of Industry and Reconversion"; "Rehabilitation and the Returning Veteran"; "Race Relations" and "Services to the Mentally Ill Today." Various aspects of these topics will be discussed by persons of experience and influence in the various fields, and at each session about half of the time will be reserved for discussion from the floor.

The luncheon session on Thursday will be devoted to the subject: "Mental Hygiene Considerations in Peace Plans." The subject at the luncheon for Mental Hygiene Societies' executives will be: "Needs and Opportunities in the Mental Hospital Field."

## BOOK REVIEW

**PSYCHOANALYSIS TODAY by Sandor Lorand. The International Press, publishers, New York, 1944. 404 p.**

This book of 31 articles has been prepared by 29 authors well recognized in their respective fields. It offers a comprehensive account of the growth and development of psychoanalysis and of its many present-day ramifications and current status.

The articles are grouped into 6 general categories of medicine and psychosomatics, education and social work, neuroses, psychoses, problems of therapy, and applied psychoanalysis, but the individual studies cover such diverse fields of interest as internal medicine, psychology, delinquency, mental hygiene, parent-child relationship, criminology, adult and child psychiatry, anthropology, religion, sociology, literature, and art.

Each essay is written as a separate study, and while this causes some repetition, it has the advantage of giving the reader the opportunity of reading the articles in the order of his own special interests.

While most of the articles have bibliographies, those for Dunbar's article on "Psychosomatic Medicine" and Roheim's "Psychoanalysis and Anthropology" are of special merit.

In appraising the volume, this reviewer feels that the purpose of this book, as described by the editor in his preface, has been well accomplished, namely, "to depict the progress in psychoanalytic research and to give to psychiatrists, medical men, social workers, educators and others to whom the problems of contemporary life are important, a comprehensive survey of the contributions of psychoanalysis to the healing sciences and general culture."

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